

Notice of Allowability	Application No.	Applicant(s)	
	09/485,571	CALAS ET AL.	
	Examiner	Art Unit	
	Chih-Min Kam	1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/21/06.
2. ☒ The allowed claim(s) is/are 18-20,24,29 and 30.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (.PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|---|

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DETAILED ACTION

Status of the Claims

1. Claims 18-20, 24, 29 and 30 are pending.

Applicants' amendment filed September 21, 2006 is acknowledged, and applicants' response has been fully considered. Claims 18, 20, 24 and 29 have been amended. Thus, claims 18-20, 24, 29 and 30 are examined.

Withdrawn Claim Objection

2. The previous objection to claims 18 and 19, is withdrawn in view of applicants' amendment to the claim, and applicants' response at page 5 of the amendment filed September 21, 2006.

Withdrawn Claim Rejections - 35 USC § 112

3. The previous rejection of claims 20 and 24 under 35 U.S.C.112, first paragraph, scope rejection, is withdrawn in view of applicants' amendment to the claim, and applicants' response at page 5 of the amendment filed September 21, 2006.
4. The previous rejection of claims 20, 24 and 29 under 35 U.S.C.112, second paragraph, is withdrawn in view of applicants' amendment to the claim, and applicants' response at page 5 of the amendment filed September 21, 2006.

Examiner's Amendment

An **Examiner's Amendment** to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

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Authorization for this examiner's amendment was given in a telephone interview with Ross J. Christie on December 6, 2006.

Examiner's Amendment to the Specification:

Please replace the abstract filed June 25, 2002 with a new abstract (see attached sheet).

Please add the following paragraph at page 1 after the title:

This application is a 371 of PCT/FR98/01757, filed August 6, 1998, which claim the priority of foreign application FRANCE 97/10297, filed August 12, 1997.

Please insert the following paragraphs before Example 1 at page 17.

Brief Description of the Drawings

Fig. 1 shows fluorescence microscopy photographs of internalization of SM1738 peptide in A172 and HT29 cells.

Fig. 2 shows fluorescence microscopy photographs of internalization of SM1738 peptide in HuVeC cells.

Fig. 3 shows fluorescence microscopy photographs of internalization of SM2307 peptide in A172 and HT29 cells.

Fig. 4 shows fluorescence microscopy photographs of internalization of SM2307 peptide in HuVeC cells.

Fig. 5 shows a fluorescence microscopy photograph of internalization of SM1738-doxorubicin in MCF7 cells.

ABSTRACT

The invention concerns peptides derived from antibiotic peptides or analogues thereof, characterized in that they are devoid of disulfide bond. The invention also concerns the use of these linear peptides for vectoring chemical substances and conjugates formed by coupling the peptides with an active substance. The invention further concerns the preparation of the peptides and the compositions containing them.

Examiner's Amendment to the Claims:

Claims 20, 24, 29 and 30 have been amended as follows:

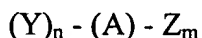
20. (Currently amended) A method for vectoring a chemical molecule to a target in vitro using a conjugate of said chemical molecule and a linear peptide consisting of a sequence of SEQ ID NO:23, ~~wherein said linear peptide is devoid of disulphide bonds, said disulphide bonds being removed, replaced by another amino acid or wherein one or more cysteines in said peptide is blocked at the SH group level,~~ said method comprising the steps of:

- (a) coupling said chemical molecule to said linear peptide to form a conjugate; and
- (b) conveying said conjugate of said chemical molecule coupled with said linear peptide to a target for vectoring, said target ~~being selected~~ is a ~~particular~~ cell compartment or a cell type.

24. (Currently amended) A method for vectoring a chemical molecule to a target in vitro using a conjugate of said chemical molecule and a the linear peptide according to claim 18, the method comprising the steps of:

- (a) coupling said chemical molecule to said linear peptide to form said conjugate; and
- (b) conveying said conjugate of said chemical molecule coupled with said linear peptide to a target for vectoring, said target ~~being selected~~ is a ~~particular~~ cell compartment or a cell type, wherein the chemical molecule is doxorubicin, biotin or an antitumor agent.

29. (Currently amended) A compound of formula (IV):



wherein:

A is the amino acid sequence of SEQ ID NO: 23;

Z is biotin, doxorubicin or a chemical molecule ~~of an antitumor or antibacterial agent;~~

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~~Y represents is a signal agent selected from the group consisting of oligopeptides, proteins, antibodies and chemical ligands, said signal agent having an affinity towards a particular cell type or a cell compartment, or the ability to recognize a specific determinant present on a particular cell type or a cell compartment;~~

~~N_n is 0; and~~

~~m is 1, and wherein Y or Z is attached to A via a covalent linkage.~~

30. (Currently amended) The compound according to claim 29, wherein ~~at least one~~ of said biotin, said doxorubicin or said chemical molecule (Z) is attached by a covalent bond to either the N-terminal or C-terminal ends of linear peptide (A).

The following is an Examiner's Statement of Reasons for Allowance: The following references appear to be related to the claimed invention. Lehrer et al. (WO 95/03325, WO 96/37508, WO 97/02287) teach antibiotic peptides of protegrins, however, these references do not teach the peptide of SEQ ID NO:23, which is derived from the antibiotic peptides and is devoid of disulfide bond, and a conjugate of SEQ ID NO:23 with a chemical molecule, as well as the use of the peptide in vectoring chemical substances to a target cell. Therefore, the claims are allowable over the art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (571) 272-0948. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Bragdon can be reached at 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chih-Min Kam, Ph. D.
Primary Patent Examiner



CHIH-MIN KAM
PRIMARY EXAMINER

CMK

December 7, 2006